

Appl. No. : 10/507,923
Filed : July 19, 2005

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1-14. (Canceled)

15. (Currently amended) A recombinant eucaryote cell or organism with the proviso that it is not an element selected from the group consisting of a human germ cell line, a human zygote, a human embryo and a human individual, said cell or organism having incorporated in its genome

i) a genetic construct made of incorporated in its genome, said genetic construct comprising at least one nucleotide sequence and optionally a selectable marker, said sequence encoding comprising a toxic gene (TOX) under the control of an inducible promoter/operator genetic sequence, said toxic gene encoding a poison protein selected from a poison/antidote group; and

ii) a genetic sequence (ANTITOX) encoding an antidote molecule to said toxic molecule poison protein with the condition that the sequence encoding the antidote molecule is not present natively in said cell or organism, and wherein the genetic sequence encoding the antidote is added to the construct or is in an episomal DNA introduced in the eucaryote cell or organism.

16. (Previously presented) The recombinant eucaryote cell or organism according to claim 15, wherein the genetic sequence encoding the antidote molecule is under the control of an inducible promoter/operator genetic sequence.

17. (Canceled)

18. (Currently amended) The recombinant eucaryote cell or organism according to claim [[17]] 15, wherein the genetic sequence encoding the toxic molecule is a genetic sequence encoding a poison protein is selected from the group consisting of CcdB, ParE, RelE, Kid, Doc, MazF and Hok proteins.

19. (Previously presented) The recombinant eucaryote cell or organism according to claim 15, wherein said cell or organism is a plant cell or a plant.

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20. (Previously presented) The recombinant eucaryote cell or organism according to claim 15, wherein said cell or organism is an animal cell or an animal.

21. (Previously presented) The recombinant eucaryote cell or organism according to claim 20, wherein said animal cell or animal is a mammalian cell or a mammal.

22. (Previously presented) The recombinant eucaryote cell according to claim 15, wherein said cell is a yeast cell.

23. (Previously presented) The recombinant eucaryote cell or organism according to claim 15, wherein the inducible promoter/operator genetic sequence is induced by a non-toxic compound.

24. (Currently amended) The recombinant eucaryote cell or organism of claim 23, wherein the non-toxic compound is selected from the group consisting of an exogenous compound [[or]] and a compound that is synthesized by the eucaryote cell or organism ~~itself at a specific stage of its development or in a specific tissue~~.

25. (Withdrawn) The recombinant eucaryote cell or organism according to claim 15 further comprising a genetic sequence integrated into its genome, wherein said genetic sequence is the target of the toxic molecule or said genetic sequence encodes the target of the toxic molecule.

26. (Previously presented) The recombinant eucaryote cell or organism according to claim 15, wherein the genetic construct is integrated into the genome of a specific cell compartment.

27. (Currently amended) The recombinant eucaryote cell or organism according to claim 26, wherein the specific cell compartment is a chloroplast ~~or a mitochondrion~~.

28. (Currently amended) The recombinant eucaryote cell or organism according to the claim 15, wherein the selectable marker is bordered by two different ~~or identical~~ toxic genes.

29. (Withdrawn) A production and selection method of a genetically modified eucaryote cell or organism having integrated into its genome an exogenous DNA fragment, said method comprising the steps of (i) providing a recombinant eucaryote cell or organism with a genetic construct carrying a toxic gene integrated therein; (ii) providing a construct carrying an exogenous DNA fragment; (iii) obtaining integration of said exogenous DNA fragment in the genome of the recombinant eucaryote cell at the insertion site where the genetic construct is integrated; (iv) selecting the genetically modified eucaryote cell or organism having integrated

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said exogenous DNA fragment under conditions allowing the expression of the toxic molecule in said cells or organisms; and (v) recovering said genetically modified eucaryote cells or organisms which do not express said toxic molecule following the integration of the exogenous DNA fragment.

30. (Withdrawn) The production and selection method according to claim 29, wherein said exogenous DNA fragment is integrated into the genome of the recombinant eucaryote cell or organism by homologous recombination between the sequence of said exogenous DNA fragment and the sequence of the genetic construct integrated into the genome of the recombinant eucaryote cell or organism.

31. (Withdrawn) The production and selection method according to claim 29, wherein said eucaryote cell or organism is a plant cell or a plant transfected by a Ti-plasmid incorporating the toxic gene.

32. (Withdrawn) The method of claim 31, wherein a complete transgenic plant is obtained from the recovered genetically modified plant cell.

33. (Withdrawn) The production and selection method of claim 31, wherein the Ti-plasmid incorporating the toxic gene is present in *Agrobacterium tumefaciens*.

34. (New) The recombinant eucaryote cell or organism according to claim 15, wherein the genetic construct further comprises a selectable marker.

35. (New) The recombinant eucaryote cell or organism according to claim 15, wherein the genetic sequence encoding the antidote is in an episomal DNA.

36. (New) The recombinant eucaryote cell or organism according to claim 15, wherein the genetic sequence encoding the antidote is added to the construct.

37. (New) The recombinant eucaryote cell or organism according to claim 24, wherein said compound that is synthesized by the eucaryote cell or organism is synthesized at a specific stage of development.

38. (New) The recombinant eucaryote cell or organism according to claim 24, wherein said compound that is synthesized by the eucaryote cell or organism is synthesized in a specific tissue.

39. (New) The recombinant eucaryote cell or organism according to claim 26, wherein the specific cell compartment is a mitochondrion.

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40. (New) The recombinant eucaryote cell or organism according to claim 28, wherein the selectable marker is bordered by two identical toxic genes.